**Amendments to the Claims:**

Please amend claims 2-11, 17-26, 31-37, and 42-47, and cancel claims 1, 16, 30, and 41. Following is a complete listing of the claims pending in the application, as amended:

1. (Cancelled)

2. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the controller is electrically coupled to each of the elements and is configured to apply a variable voltage to each element to independently change a state of each element from one state to any of a plurality of available other states.

3. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the adaptive structure includes a plurality of Faraday rotator elements, with each Faraday rotator element coupled to the controller, and wherein the controller is configured to independently apply a variable voltage to each Faraday rotator element to change a state of each Faraday rotator element from one state to any of a plurality of available other states, with each Faraday rotator element transmitting radiation at a first polarization when in the one state, and transmitting radiation at a corresponding plurality of other polarizations when in any of the other states.

4. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the adaptive structure includes a plurality of quartz pixel elements with each pixel element coupled to the controller, and wherein the controller is configured to independently apply a variable voltage to each pixel element to change a state of each pixel element from one state to any of a plurality of available other states, with each pixel element transmitting radiation at a first phase when in the one state, and transmitting radiation at a corresponding plurality of other phases when in any of the other states.

5. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the elements of the adaptive structure have a non-time varying transmissibility in each of the states.

6. (Currently amended) ~~The apparatus of claim 1, further comprising~~An apparatus for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

a workpiece support having a support surface positioned to carry a microlithographic workpiece;

a source of radiation positioned to direct a radiation beam along a radiation path toward the workpiece support, the radiation beam having an amplitude distribution, a phase distribution and a polarization distribution;

an adaptive structure positioned in the radiation path between the source of radiation and the workpiece support, the adaptive structure having a plurality of independently controllable and selectively radiation transmissible elements, each configured to receive a portion of the radiation beam and change from one state to any of a plurality of available other states to change at least one of the amplitude distribution, the phase distribution and the polarization distribution of the radiation beam;

a reticle disposed between the adaptive structure and the workpiece support; and

a controller operatively coupled to the adaptive structure to direct the elements of the adaptive structure to change from the one state to the one of the plurality of other states.

7. (Currently amended) The apparatus of claim 6~~1~~, further comprising a reticle disposed between the adaptive structure and the workpiece support, at least one of the reticle and the workpiece support being movable relative to the other.

8. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the adaptive structure includes first, second and third arrays of electrically addressable elements, each array intersecting the radiation path and extending in two orthogonal directions generally normal to the radiation path, the elements of the first array being configured to receive first electrical signals to change state and alter the amplitude distribution of the radiation beam, the elements of the second array being configured to receive second

electrical signals to change state and alter the phase distribution of the radiation beam, the elements of the third array being configured to receive third electrical signals to change state and alter a polarization distribution of the radiation beam.

9. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the adaptive structure includes a plurality of electrically addressable elements arranged in an array of columns and rows.

10. (Currently amended) The apparatus of claim 6 ~~1~~ wherein the plurality of available other states include a generally continuous spectrum of other states.

11. (Currently amended) An apparatus for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

a workpiece support having a support surface positioned to carry a microlithographic workpiece;

a source of radiation positioned to direct a radiation beam along a radiation path toward the workpiece support, the radiation beam having a phase distribution and a polarization distribution;

an adaptive structure positioned in the radiation path between the source of radiation and the workpiece support, the adaptive structure having a plurality of independently controllable elements, each configured to receive a portion of the radiation beam and change from one state to any of a plurality of available other states to change at least one of the phase distribution and the polarization distribution of the radiation beam; ~~and~~

a reticle disposed between the adaptive structure and the workpiece support; and

a controller operatively coupled to the adaptive structure to direct the elements of the adaptive structure to change from the one state to the one of the plurality of other states.

12. (Original) The apparatus of claim 11 wherein the adaptive structure is at least partially transmissive to the radiation beam to allow at least a portion of the radiation beam to pass through the adaptive structure.

13. (Original) The apparatus of claim 11 wherein the adaptive structure includes a plurality of reflective elements.

14. (Original) The apparatus of claim 11 wherein the adaptive structure includes a plurality of Faraday rotator elements, with each Faraday rotator element coupled to the controller, and wherein the controller is configured to independently apply a variable voltage to each Faraday rotator element to change a state of each Faraday rotator element from one state to any of a plurality of available other states, with each Faraday rotator element transmitting radiation at a first polarization when in the one state, and transmitting radiation at a corresponding plurality of other polarizations when in any of the other states.

15. (Original) The apparatus of claim 11 wherein the adaptive structure includes a plurality of quartz pixel elements with each pixel element coupled to the controller, and wherein the controller is configured to independently apply a variable voltage to each pixel element to change a state of each pixel element from one state to any of a plurality of available other states, with each pixel element transmitting radiation at a first phase when in the one state, and transmitting radiation at a corresponding plurality of other phases when in any of the other states.

16. (Cancelled)

17. (Currently amended) The apparatus of claim <u>21</u> ~~16~~ wherein the adaptive structure is configured to change from one state to any of a plurality of available other states to change at least two of the amplitude distribution, the phase distribution and the polarization distribution.

18. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of elements, with each element coupled to the controller, and wherein the controller is configured to apply a variable voltage to each element to independently change a state of each element from a first element state to any of a plurality of available second element states.

19. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of Faraday rotator elements, with each Faraday rotator element coupled to the controller, and wherein the controller is configured to apply a variable voltage to each Faraday rotator element to independently change a state of each Faraday rotator element from a first element state to any of a plurality of available second element states, with each Faraday rotator element transmitting radiation at a first polarization when in the first element state, and transmitting radiation at a corresponding plurality of second polarizations when in any of the second element states.

20. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of quartz pixel elements with each pixel element coupled to the controller, and wherein the controller is configured to apply a variable voltage to each pixel element to independently change a state of each pixel element from a first element state to any of a plurality of available second element states, with each pixel element transmitting radiation at a first phase when in the first element state, and transmitting radiation at a corresponding plurality of second phases when in any of the second element states.

21. (Currently amended) ~~The apparatus of claim 16, further comprising~~ An apparatus for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

a workpiece support having a support surface positioned to carry a microlithographic workpiece;

a source of radiation positioned to direct a radiation beam along a radiation path toward the workpiece support, the radiation beam having an amplitude distribution, a phase distribution and a polarization distribution;

an adaptive structure positioned in the radiation path between the source of radiation and the workpiece support, the adaptive structure being configured to receive the radiation beam and independently change any two of the amplitude distribution, the phase distribution and the polarization distribution of the radiation beam; and

a reticle disposed between the adaptive structure and the workpiece support; and

a controller operatively coupled to the adaptive structure to direct the adaptive structure to change from one state to another state.

22. (Currently amended) The apparatus of claim ~~16~~21, further comprising a reticle disposed between the adaptive structure and the workpiece support, at least one of the reticle and the workpiece support being movable relative to the other.

23. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes at least first and second arrays of independently electrically addressable elements, each array intersecting the radiation path and extending in two orthogonal directions generally normal to the radiation path, the elements of the first array being configured to receive first electrical signals to change state and alter one of the amplitude distribution, the phase distribution and the polarization distribution of the radiation beam, the elements of the second array being configured to receive second electrical signals to change state and alter another of the amplitude distribution, the phase distribution and the polarization distribution of the radiation beam.

24. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of electrically addressable elements arranged in an array of columns and rows.

25. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of adaptive elements, each being at least partially transmissive to the radiation beam to allow at least a portion of the radiation beam to pass through.

26. (Currently amended) The apparatus of claim 21 ~~16~~ wherein the adaptive structure includes a plurality of reflective elements.

27. (Original) An apparatus for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

a workpiece support having a support surface positioned to carry a microlithographic workpiece;

a source of radiation positioned to direct a radiation beam along a radiation path toward the workpiece support, the radiation beam having an amplitude distribution, a phase distribution and a polarization distribution in a plane generally transverse to the radiation path;

an adaptive structure positioned in the radiation path between the source of radiation and the workpiece support, the adaptive structure to receive the radiation beam and change from one state to any of a plurality of available other states to independently change each of the amplitude distribution, the phase distribution and the polarization distribution from a first distribution to a second distribution, with each second distribution selected from a generally continuous spectrum of second distributions;

a controller electrically coupled to the adaptive structure to direct electrical signals to the adaptive structure to change the state of the adaptive structure; and

a reticle positioned between the adaptive structure and the workpiece support, with at least one of the reticle and the workpiece support being movable relative to the other.

28. (Original) The apparatus of claim 27 wherein the adaptive structure includes a plurality of adaptive elements, each being at least partially transmissive to the radiation beam to allow at least a portion of the radiation beam to pass through.

29. (Original) The apparatus of claim 27 wherein the adaptive structure includes a plurality of reflective elements.

30. (Cancelled)

31. (Currently amended) The method of claim 35 ~~30~~ wherein changing a state includes changing a state to any of a plurality of available other states, all of which correspond to different amplitude distributions, or different phase distributions or different polarization distributions.

32. (Currently amended) The method of claim 35~~30~~, further comprising:

passing the radiation beam through first, second and third arrays of electrically addressable elements, each array intersecting the radiation path and extending in two orthogonal directions generally normal to the radiation path;

directing first electrical signals to the first array to change a state of the first array and alter the amplitude distribution of the radiation beam;

directing second electrical signals to the second array to change a state of the second array and alter the phase distribution of the radiation beam; and

directing third electrical signals to the third array to change a state of the third array and alter a polarization distribution of the radiation beam.

33. (Currently amended) The method of claim 35 ~~30~~ wherein changing a state of at least one element of the adaptive structure includes directing an electrical signal to at least one of a plurality of electrically addressable elements arranged in an array of columns and rows.

34. (Currently amended) The method of claim 35 ~~30~~ wherein changing a state of at least one element of the adaptive structure includes changing from one state to any of a plurality of other states in a generally continuous spectrum of other states.

35. (Currently amended) ~~The method of claim 30, further comprising~~ A method for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

directing a radiation beam from a radiation source along a radiation path, the radiation beam having an amplitude distribution, a phase distribution, and a polarization distribution as a function of location in a plane generally transverse to the radiation path;

impinging the radiation beam on an adaptive structure positioned in the radiation path;

changing a state of at least one element of the adaptive structure from one state to any of a plurality of available other states to change at least one of the amplitude distribution, the phase distribution and the polarization distribution;

passing the radiation beam through and away from the at least one element of the adaptive structure;

passing the radiation beam through a reticle positioned between the adaptive structure and the microlithographic workpiece; and

impinging the radiation beam directed away from the adaptive structure on the microlithographic workpiece.

36. (Currently amended) The method of claim 35~~30~~, further comprising:

passing the radiation beam through a reticle positioned between the adaptive structure and the microlithographic workpiece; and

moving at least one of the reticle and the microlithographic workpiece relative to the other while impinging the radiation beam on the microlithographic workpiece.

37. (Currently amended) A method for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

directing a radiation beam from a radiation source along a radiation path, the radiation beam having a phase distribution and a polarization distribution as a function of location in a plane generally transverse to the radiation path;

impinging the radiation beam on an adaptive structure positioned in the radiation path;

changing a state of at least one element of the adaptive structure from one state to any of a plurality of available other states to change at least one of the phase distribution and the polarization distribution;

directing the radiation beam away from the at least one element of the adaptive structure;~~ and~~

passing the radiation beam through a reticle positioned between the adaptive structure and the microlithographic workpiece; and

impinging the radiation beam directed away from the adaptive structure on the microlithographic workpiece.

38. (Original) The method of claim 37, further comprising passing the radiation beam through the at least one element of the adaptive structure.

39. (Original) The method of claim 37, further comprising reflecting the radiation beam from the at least one element of the adaptive structure.

40. (Original) The method of claim 37 wherein changing a state includes applying an electrical signal to the at least one element of the adaptive structure.

41. (Cancelled)

42. (Currently amended) The method of claim 47 ~~41~~ wherein changing a state of each of at least two independently controllable elements of the adaptive structure includes:

directing one or more first electrical signals to one or more first elements of the adaptive structure to change one of the amplitude distribution, the phase distribution and the polarization distribution;

directing one or more second electrical signals to one or more second elements of the adaptive structure to change another of the amplitude distribution, the phase distribution and the polarization distribution; and

passing the radiation beam sequentially through the one or more first elements and then through the one or more second elements.

43. (Currently amended) The method of claim 47 ~~41~~ wherein changing a state includes changing the state from one state to any of a plurality of available other states.

44. (Currently amended) The method of claim 47~~41~~, further comprising passing the radiation beam through the elements of the adaptive structure.

45. (Currently amended) The method of claim 47~~41~~, further comprising reflecting the radiation beam from the elements of the adaptive structure.

46. (Currently amended) The method of claim 47~~41~~, further comprising:

passing the radiation beam through first, second and third arrays of electrically addressable elements, each array intersecting the radiation path and extending in two orthogonal directions generally normal to the radiation path;

directing first electrical signals to the first array to change a state of the first array and alter the amplitude distribution of the radiation beam;

directing second electrical signals to the second array to change a state of the second array and alter the phase distribution of the radiation beam; and

directing third electrical signals to the third array to change a state of the third array and alter a polarization distribution of the radiation beam.

47. (Currently amended) ~~The method of claim 41, further comprising~~A method for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

directing a radiation beam from a radiation source along a radiation path, the radiation beam having an amplitude distribution, a phase distribution, and a polarization distribution as a function of location in a plane generally transverse to the radiation path;

impinging the radiation beam on an adaptive structure positioned in the radiation path;

changing a state of each of at least two independently controllable elements of the adaptive structure from one state to another state to independently change at least two of the amplitude distribution, the phase distribution and the polarization distribution;

directing the radiation beam away from the adaptive structure along the radiation path;

passing the radiation beam through a reticle positioned between the adaptive structure and the microlithographic workpiece; and

impinging the radiation beam directed away from the adaptive structure on the microlithographic workpiece.

48. (Original) A method for controlling characteristics of radiation directed to a microlithographic workpiece, comprising:

directing a radiation beam from a radiation source along a radiation path, the radiation beam having a first amplitude distribution, a first phase distribution and a first polarization distribution as a function of location in a plane generally transverse to the radiation path;

impinging the radiation beam on an adaptive structure positioned in the radiation path;

changing a state of each of a plurality of adaptive elements of the adaptive structure from one state to any of a plurality of available other states to change the first amplitude distribution to a second amplitude distribution, change the first phase distribution to a second phase distribution, and change the first polarization distribution to a second polarization distribution, with each change being independent of the other two;

directing the radiation beam through and away from the adaptive structure along the radiation path;

passing the radiation beam through a reticle positioned between the adaptive structure and the microlithographic workpiece; and

impinging the radiation beam directed away from the adaptive structure on the microlithographic workpiece.

49. (Original) The method of claim 48, further comprising:

passing the radiation beam through first, second and third arrays of electrically addressable elements, each array intersecting the radiation path and extending in two orthogonal directions generally normal to the radiation path;

directing first electrical signals to the first array to change a state of the first array and alter the amplitude distribution of the radiation beam;

directing second electrical signals to the second array to change a state of the second array and alter the phase distribution of the radiation beam; and

directing third electrical signals to the third array to change a state of the third array and alter a polarization distribution of the radiation beam.